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10/706,919	11/14/2003	Wayne F. Pierzga	67442-011	7648

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EXAMINER	
SHEDRICK, CHARLES TERRELL	
ART UNIT	PAPER NUMBER
2617	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/706,919	PIERZGA ET AL.	
	Examiner	Art Unit	
	Charles Shedrick	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-33 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-33 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 14 November 2003 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims **1-11,13,15, and 19-33** are rejected under 35 U.S.C. 102(b) as being anticipated by Simon et al. US Patent No.: 5,530,909, hereinafter, 'Simon'.

Consider **claim 1**, Simon teaches a data communication system for providing data communications between a data network and a user data terminal (**e.g., communications of STA, aerodynes, and STB) (see figure 1 and col. 1 lines 50-55**) comprising: at least one cluster of data communication stations moving with respect to each other (e.g., **multiplicity of aerodynes in figure 1 equipped with data communications means**)(**col. 1 line 50 – col. 2 line 19**), the user data terminal being linked to a data communication system in the cluster (**col. 2 lines 7-19**), and an assignment mechanism for dynamically assigning at least one of the data communication stations in the cluster with a function of a cluster controller to transmit data packets from the data network to at least one other data communication station in the cluster **(e.g., momentarily located within range as discussed in col. 1 line 54 –col. 2 line 2 or based on itinerary col. 2 lines 38-41) (relay systems and aerodynes are assigned based on various metrics computed within the processing unit) (e.g., the processing unit see figure 2 and description of figure 2 in col. 3 lines 7 – 50)**.

Consider **claim 23**, Simon teaches, In a data communication system for providing transmission of data packets between a data network and a cluster of data communication stations moving with respect to each other **(e.g., see figure 1 and col. 2 lines 7-19, col. 2 lines 34-65)**, a data communication station of the cluster comprising: receiving and transmitting circuitry for providing data communications with other data communication stations and with the data network (**figure 2 and col. 3 lines 7-10**), the communication station being dynamically assigned to operate as a cluster controller during a predetermined time interval to receive data packets from the data network for transmission to another data communication station in the cluster **(e.g., momentarily located within range as discussed in col. 1 line 54 –col. 2 line 2 or based on itinerary col. 2 lines 38-41) (col. 2 lines 59-64 outlines a predetermined time interval col. 2 lines 40-41 teaches that the routing can be based on numerous aircraft itineraries)**.

Consider **claim 28**, Simon teaches a method of data communications between a data network and a user data terminal linked to a data communication station in a cluster of data communication stations moving with respect to each other (e.g., **multiplicity of aerodynes in figure 1 equipped with data communications means)(col. 1 line 50 – col. 2 line 19**), the method comprising the steps of: assigning a function of a first cluster controller to a first data communication station in the cluster **(e.g., see col. 2 line 52- col. 3 line 6, select relay system controls the communication path see also col. 1 line 50 – col. 2 line 19, and col. 3 lines 6-49)** , to enable the first data communication station to transmit first data packets from the data network to other data communication stations in the cluster in a first predetermined time period **(e.g., momentarily located within range as discussed in col. 1 line 54 –col. 2 line 2 or based on itinerary col. 2 lines 38-41) (e.g., based on a predetermined time frame or subject to flight**

itinerary col. 2 lines 38-41 and 59-64), and assigning a function of a second cluster controller to a second data communication station in the cluster (**e.g., see col. 2 line 52- col. 3 line 6, select relay system controls the communication path see also col. 1 line 50 – col. 2 line 19, and col. 3 lines 6-49**), to enable the second data communication station to transmit second data packets from the first cluster controller to other data communication stations in a cluster of the second cluster controller in a second predetermined time period(**e.g., momentarily located within range as discussed in col. 1 line 54 –col. 2 line 2 or based on itinerary col. 2 lines 38-41**) (**e.g., based on a predetermined time frame or subject to flight itinerary col. 2 lines 38-41 and 59-64**).

Consider **claim 32**, Simon teaches a data communication system for providing data communications between a data network and a user data terminal (**e.g., communications of STA, aerodynes, and STB**) (**see figure 1 and col. 1 lines 50-55**), comprising: at least one cluster of data communication stations moving with respect to each other (e.g., **multiplicity of aerodynes in figure 1 equipped with data communications means**)(**col. 1 line 50 – col. 2 line 19**), the user data terminal being linked to a data communication system in the cluster(**col. 2 lines 7-19**), and an assignment mechanism for dynamically assigning at least one of the data communication stations in the cluster with a function of a cluster controller to transmit to the data network a data packet received from at least one other data communication station in the cluster(**relay systems and aerodynes are assigned based on various metrics computed within the processing unit**) (**e.g., the processing unit see figure 2 and description of figure 2 in col. 3 lines 7 – 50**).

Consider **claim 33**, Simon teaches a method of data communications between a data network and

a user data terminal linked to a data communication station in a cluster of data communication stations moving with respect to each other (e.g., **multiplicity of aerodynes in figure 1 equipped with data communications means**)(**col. 1 line 50 – col. 2 line 19**), the method comprising the steps of: assigning a function of a first cluster controller to a first data communication station in the cluster (**e.g., see col. 2 line 52- col. 3 line 6, select relay system controls the communication path see also col. 1 line 50 – col. 2 line 19, and col. 3 lines 6-49**), to enable the first data communication station to transmit to the data network first data packets received from other data communication stations in the cluster in a first predetermined time period(**e.g., momentarily located within range as discussed in col. 1 line 54 –col. 2 line 2 or based on itinerary col. 2 lines 38-41) (e.g., based on a predetermined time frame or subject to flight itinerary col. 2 lines 38-41 and 59-64**), and assigning a function of a second cluster controller to a second data communication station in the cluster(**e.g., see col. 2 line 52- col. 3 line 6, select relay system controls the communication path see also col. 1 line 50 – col. 2 line 19, and col. 3 lines 6-49**), to enable the second data communication station to transmit to the first cluster controller second data packets received from other data communication stations in a cluster of the second cluster controller in a second predetermined time period(**e.g., momentarily located within range as discussed in col. 1 line 54 –col. 2 line 2 or based on itinerary col. 2 lines 38-41) (e.g., based on a predetermined time frame or subject to flight itinerary col. 2 lines 38-41 and 59-64**).

Consider **claim 2 and as applied to claim 1**, Simon teaches wherein the cluster controller function is assigned for a predetermined time interval **(e.g., momentarily located within range as discussed in col. 1 line 54 –col. 2 line 2 or based on itinerary col. 2 lines 38-41)**

Consider **claim 3 and as applied to claim 1**, Simon teaches wherein the cluster controller function is assigned based on a current location of the data communication station being assigned **(e.g., momentarily located within range as discussed in col. 1 line 54 –col. 2 line 2 or based on itinerary col. 2 lines 38-41.**

Consider **claim 4 and as applied to claim 1**, Simon teaches wherein the cluster controller function is assigned based on a predicted location of the data communication station being assigned (**col. 3 lines 28-30**).

Consider **claim 5 and as applied to claim 1**, Simon teaches wherein the cluster controller function is assigned based on ability of the data communication station being assigned to provide data communications between the data communication stations in a predetermined geographic area (**e.g., the routing tables are based on a number of factors such as range, timing. location and destination)(col. 3 lines 37-61**).

Consider **claim 6 and as applied to claim 1,** Simon teaches wherein the cluster controller function is assigned based on ability of the data communication station being assigned to provide data communications between the maximum number of the data communication stations in the cluster (**e.g., the best route may be the minimum or the maximum)(col. 3 lines 37-40**)

Consider **claim 7 and as applied to claim 1,** Simon teaches wherein the cluster controller function is assigned based on ability of the data communication station being assigned to provide data communications with predetermined data communication stations in the cluster (**col. 3 lines 3-6**).

Consider **claim 8 and as applied to claim 1,** Simon teaches wherein the assignment mechanism

is configured to direct a data communication station in the cluster to perform the cluster controller function (**via relay data col. 3 lines 12 –21**).

Consider **claim 9 and as applied to claim 1,** Simon teaches wherein the assignment mechanism is configured to enable a data communication station in the cluster to request the cluster controller function **(e.g., col. 4 lines 5-10 and lines 29-33 teaches a request for a channel to be open once a channel is open transmission to another relay system enables it top control the cluster col. 3 lines 18-20**).

Consider **claim 10 and as applied to claim 1,** Simon teaches wherein the assignment mechanism is configured to assign the cluster controller function based on position data describing current and anticipated positions of the data communication stations (**col. 3 lines 28-36).**

Consider **claim 11 and as applied to claim 10,** Simon teaches wherein the position data include air traffic control data describing four-dimensional physical location of aircraft carrying a data communication station (**col. 3 lines 28-36)**(e.g., the locations are based partly on locations of neighboring aircrafts).

Consider **claim 13 and as applied to claim 1,** Simon teaches wherein the data communication station includes a receiver for receiving a data communication signal carrying data from the data network (**figure 2**).

Consider **claim 15 and as applied to claim 1,** Simon teaches wherein multiple clusters of data communication stations are provided (**e.g., see figure 1 each circle represents a communication range which further represents a cluster**).

Consider **claim 19 and as applied to claim 1,** Simon teaches wherein at least one data communication station is carried on an airborne platform (**col. 2 lines 38-47**).

Consider **claim 20 and as applied to claim 19,** Simon teaches wherein the trajectory of the airborne platform is independent from and not controlled by the system of claim 1**(col. 2 lines 38-47)(the itineraries differ from one another)**.

Consider **claim 21 and as applied to claim 19,** Simon teaches wherein the airborne-platform is able to periodically return to ground (**e.g., aircraft col. 2 lines 38-47**).

Consider **claim 22 and as applied to claim 19,** Simon teaches wherein at least one data communication station in the cluster is included in multiple virtual data communication networks **(col. 3 lines 30 –35 and col. 5 lines 20-32)(the routing tables represent reachability (virtual) in addition to physical connections based on the quality of the route)(col. 5 lines 15-19)**.

Consider **claim 24 and as applied to claim 23,** Simon teaches wherein the receiving and transmitting circuitry is configured for receiving an assignment signal to assign the communication station as the cluster controller (**col. 3 lines 5-10**).

Consider **claim 25 and as applied to claim 24,** Simon teaches wherein the assignment signal is provided by a central controller (**col. 5 lines 63-65**).

Consider **claim 26 and as applied to claim 24,** Simon teaches wherein the assignment signal is provided by one of the communication stations in the cluster (**see steps of Simon in claim 1**).

Consider **claim 27 and as applied to claim 26,** Simon teaches wherein the assignment signal is provided by a data communication station operating as the cluster controller during a previous time interval (**see claim 12 of Simon**)

Consider **claim 29 and as applied to claim 28,** Simon teaches wherein a cluster controller function is assigned by a central controller (**e.g., the control controls the information for all aerodynes within range and assigns another controller based on the rule base of the processor**) (**see steps of Simon in claim 1**).

Consider **claim 30 and as applied to claim 29,** Simon teaches wherein the second data communication station is assigned with the cluster controller function by the first data communication station (**see steps of Simon in claim 1**).

Consider **claim 31 and as applied to claim 30,** Simon teaches, wherein a data communication signal sent from the second data communication to a third data communication station after the second data communication station is assigned with the cluster controller function is received by the first data communication station as an acknowledgement signal (**see steps of Simon in claim 1**).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims **12,14, and 16-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Simon et al. US Patent No.: 5,530,909**, hereinafter, 'Simon' in view of Well-known art.

Consider **claims 12 and 16-18 and as applied to claims 1**, Simon teaches the method according to the invention could of course further call on, in combination, stationary relay systems installed on the ground and susceptible of being linked to telecommunications systems existing on the ground, or even with satellite-borne relay systems (**col. 5 lines 27-32**).

However, Simon does not specifically teach wherein the data communication station is linked to a local area network including the user data terminal and wherein the data network includes the Internet or a private network or a public network.

Nonetheless, the Examiner takes official notice that data communication stations linked to a local area network including the user data terminal and wherein the data network includes the Internet or a private network or a public network are notoriously well-known in the art.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include wherein the data communication station is linked to a local area network including the user data terminal and wherein the data network includes the Internet or a private network or a public network based on the network source or destination.

Consider **claim 14 and as applied to claim 12,** Simon as modified by Well known art teaches wherein the data communication station further includes a transmitter and a receiver for providing data communications with other data communication stations (**col. 3 lines 7-11**).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Shedrick whose telephone number is (571)-272-8621. The examiner can normally be reached on Monday thru Friday 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kincaid Lester can be reached on (571)-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LESTER G. KINCAID
SUPERVISORY PRIMARY EXAMINER

Charles Shedrick
AU 2617
June 26, 2007